Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

Claims 1-39. **(Canceled)**

40. **(Previously Presented)** A system, comprising:

an image sensor having an array of sensing pixels, each sensing pixel comprising a photoreceptor responsive to light and a pixel processing circuit to receive and process output from said photoreceptor;

an optical device to direct input light from a scene to said image sensor; and

a device operable to move said image sensor and said optical device relative to each other to cause an image of the scene to move relative to said image sensor,

wherein each pixel processing circuit produces temporal pulses in response to a variation in light received by a respective sensing pixel caused by the image moving relative to said image sensor, and said temporal pulses have spatial information of the image with a spatial resolution pitch less than a spacing between two adjacent sensing pixels.

41. **(Previously Presented)** The system as in claim 40, wherein each pixel processing circuit includes:

an amplifier to amplify a temporal variation in output from a corresponding photoreceptor, and

a pulse generation circuit to process output from said amplifier and to produce said temporal pulses.

42. **(Previously Presented)** The system as in claim 41, wherein said pulse generation circuit includes:

a first circuit that generates temporal pulses in response to a temporal increase in the output from said amplifier, and

a second circuit that generates temporal pulses in response to a temporal decrease in the output from said amplifier.

43. **(Previously Presented)** The system as in claim 42, wherein said pulse generation circuit includes a threshold mechanism to generate a pulse when the output from said amplifier reaches a threshold value.

44. **(Previously Presented)** The system as in claim 40, further comprising a feature map extractor circuit coupled to temporal pulses from said array of sensing pixels and operable to extract spatial features of the image from said temporal pulses.

45. **(Previously Presented)** The system as in claim 44, wherein said feature map extractor circuit builds a histogram indicating a number of temporal pulses from each of said sensing pixels over a given integration time to form a spatial intensity gradient map of the image received by said image sensor.

46. **(Previously Presented)** The system as in claim 44, wherein said feature map extractor circuit processes signals from said sensing pixels separately in extracting said spatial features of the image.

47. **(Previously Presented)** The system as in claim 44, wherein said feature map extractor circuit includes:

a memory device having a lookup table having image pixel addresses derived from relative positioning information between the optical device and said image sensor;

an adder circuit to add a number of pulses from each and every sensing pixels; and

an image feature memory device having memory cells to receive and store the number of pulses from each every sensing pixels.

48. **(Previously Presented)** The system as in claim 47, wherein said feature map extractor circuit further includes a FIFO buffer having an input side connected to said image sensor and said memory device have said lookup table and an output side connected to said adder circuit and said image feature memory device.

49. **(Previously Presented)** A method, comprising:

causing an optical image to move relative to an image sensor having an array of sensing pixels;

using a pixel processing circuit in each sensing pixel to measure a variation in received light caused by the image moving relative to said image sensor to produce temporal pulses encoded with spatial feature information of the image with a spatial resolution pitch less than a spacing between two adjacent sensing pixels; and

processing temporal pulses from the sensing pixels to extract the encoded spatial feature information of the image.

50. **(Previously Presented)** The method as in claim 49, wherein the processing includes correlating the relative motion between the optical image and the image sensor to the temporal pulses.

51. **(Previously Presented)** The method as in claim 49, wherein temporal pulses from each sensing pixel are processed independently from other sensing pixels to mitigate fixed pattern noise.

52. **(New)** The method as in claim 49, further comprising encoding changes in pulses which are either in positive directions or negative directions into the pulses.

53. **(New)** The method as in claim 49, further comprising using a logarithmic amplifier in each sensing pixel to process each signal generated from received light.

54. **(New)** The method as in claim 49, further comprising:

encoding changes in pulses which are either in positive directions or negative directions into said digital pulses; and

converting both positive and negative signals into a common level.

55. **(New)** The method as in claim 49, further comprising using a moving reflective device to cause the relative motion between the optical image and the image sensor.

56. **(New)** The method as in claim 55, wherein the moving reflective device includes a mirror and the method further comprising rotating the mirror to cause the relative motion.

57. **(New)** The method as in claim 49, further comprising using a moving lens to cause the relative motion between the optical image and the image sensor.

58. **(New)** The method as in claim 57, further comprising cause the moving lens to move by an external vibration, wherein the moving lens forms a resonant system that moves at a speed proportional to resonance in the system.

59. **(New)** The method as in claim 49, wherein the optical image is moved relative to the image sensor cyclically.

60. **(New)** The method as in claim 49, wherein the optical image is moved relative to the image sensor randomly.

61. **(New)** The method as in claim 49, further comprising:

logarithmically detecting received light to produce an output;

using a derivative and half wave rectification circuit to process the output to retain both positive and negative components of the output.

62. **(New)** The method as in claim 49, further comprising using information about phase locking of the pulses to determine information about a spatial pattern in the optical image.

63. **(New)** The method as in claim 49, further comprising obtaining a histogram indicating a number of spikes occurring as a function of position of a given integration time, and

using the histogram to determine information about the optical image.

64. **(New)** The method as in claim 49, further comprising using a moving prism to cause the relative motion between the optical image and the image sensor.

65. **(New)** The system as in claim 40, wherein said optical device includes a mirror operable to rotate.

66. **(New)** The system as in claim 40, wherein said optical device includes a lens.

67. **(New)** The system as in claim 66, wherein said lens is moved by an external vibration, and forms a resonant system that moves at a speed proportional to resonance in the system.

68. **(New)** The system as in claim 40, wherein said device operable to move said sensor and said optical device relative each other randomly.

69. **(New)** The system as in claim 40, wherein said device operable to move said sensor and said optical device relative each other cyclically.

70. **(New)** The system as in claim 40, further comprising a processing circuit which encodes changes in said output which are either in positive directions or negative directions into said pulses.

71. **(New)** The system as in claim 40, wherein said pixel processing circuit comprises a logarithmic amplifier.

72. **(New)** The system as in claim 71, wherein said pixel processing circuit further comprises a differentiation element, and a half wave rectification element which converts both positive and negative signals into a common level.

73. **(New)** The system as in claim 40, wherein said optical device comprises a prism.